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COMMUNICATIONS AND ECONOMIC DEVELOPMENT

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PREFACE

COMMUNICATIONS are the bloodstream which provides the vitalizing and unifying force in modern civilization. Along this stream flow the thoughts, the knowledge and the information which make it possible for complex industrial societies to function and for underdeveloped countries to fertilize their ancient cultures with new ideas and methods.

In the present article, Dr. Arno Huth discusses the potentialities of this vast reservoir of power, the problems of handling a sensitive and highly complicated technique and the paucity of efforts to develop this subject effectively and scientifically. What are the messages to be carried? Who is the audience? How can the listener learn to hear and discriminate? Without discrimination, to ignorance can be added misinformation, to the chains of poverty and disease, the dictator's web. Finally, what media are suitable for what purposes and where? These are some of the questions the author raises in a paper which obviously cannot attempt to find the answers but merely indicate the nature of the problem and the need for adequate research.

Dr. Huth, lecturer in communications and international relations at the New School for Social Research, brings to his analysis of communications and economic development a sensitive understanding and expert knowledge. He has been a foreign and special correspondent for a number of British and European newspapers and magazines and was a radio consultant to the United States Legation in Berne, Switzerland. More recently, in addition to his duties at the New School, he has represented Unesco at important international telecommunications and radio conferences and has served as consultant to the United Nations. He has written a number of books, studies and articles on problems of international communication.

ANNE WINSLOW
Editor

January 1952

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Communications and Economic Development

By **ARNO G. HUTH**

> I believe that the whole technical assistance program will depend to a great extent for its lasting success on the degree of confidence and support that it can command at the local community level and its ability to stimulate local action. . . .
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> TRYGVE LIE

THE DEGREE OF CONFIDENCE

in the technical assistance program and the degree of support by the people largely depend upon the understanding and approval of the program, and thus upon the use made of the media of communications and information. The words of the Secretary-General of the United Nations, spoken at the opening session of the General Conference of Unesco in Paris, in June 1951, thus emphasize the importance of communications in economic development.

It has become more and more evident that the greatest obstacle to the technical assistance program is perhaps not the lack of funds and equipment but rather the lack of interest and support by public opinion, frequently indifferent, ignorant or hostile. How can this problem be solved as long as the media of communications necessary to inform and to

arouse public opinion are so deficient, particularly in those areas where they are most needed?

Even a superficial analysis of the present conditions in underdeveloped areas reveals the shortage of roads and railways, of telephones and radios, of printing presses and film projectors. Transport facilities which are indispensable for the distribution of printed and visual information are grossly inadequate, even in some of the technically more advanced countries. "There is no greater single need than improvement and extension of transportation and communication facilities," states a United Nations report on Brazil.[1] Even where adequate technical facilities exist, few people know how to use them; only a small number of countries have well-organized information and program services operated by trained personnel.

A comparison of communications in underdeveloped areas with those in highly-developed countries, where at least the urban centers and industrialized districts have an abundance of all kinds of transportation and communication facilities, shows an alarming inequality of services and equipment. While the United States has 40,709,389 telephones, India with more than twice as many inhabitants has only 128,911 telephones, Indonesia with seventy-eight million inhabitants, only 35,750 telephones and Pakistan with seventy-five million, only 17,445.[2] The United States has 1,773 daily newspapers with a total circulation of 54,017,938 copies;[3] Saudi Arabia has not a single daily newspaper. The United States has

[1] United Nations Doc. E/CN.12/169/Add.1, 1 May 1950, p. 12.

[2] Figures cited as of 1 January 1950. *Telephone Statistics of the World* (New York, American Telephone and Telegraph Company, 1951).

[3] Figures cited as of 30 September 1951. *Editor and Publisher*, 2 February 1952, p. 7.

19,796 motion picture theatres with 12,384,150 seats,[4] as contrasted with 4 cinemas, seating 2,500 people, in Afghanistan.[5] The United States has 2,890 broadcasting and 108 television stations;[6] in many countries there are only one or two radio stations.

While the United States has more than 105,000,000 radio and 15,600,000 television receivers, twenty countries have less than 100,000 radios, five less than 10,000, and many of the non-self-governing territories have under 5,000.[7] In the United States, there are more than 675 radio sets per thousand inhabitants, 308 per thousand in Sweden, 305 in Denmark, 246 in Australia and 233 in the United Kingdom; in India, Indonesia and Saudi Arabia, however, the ratio is only one or two sets per thousand inhabitants,[8] and it is even less than one in Afghanistan, Burma and many of the African territories.

Deficiencies in one field tend to paralyze developments in other fields. Thus, for example, where there are no roads it is difficult to transport building material for schools and hospitals or to transport teachers, doctors and nurses. And where there are no means of communication, it is difficult, if not impossible, to inform the people about programs for economic development and to enlist their cooperation. Still more important is the need of facilities for the transmission of vital information, particularly with regard to technical and scientific matters. How can we speak of freedom of information where no channels of information exist, or of the

[4] Figures cited as of 1 January 1951. *Film Daily Yearbook, 1951* (New York, The Film Daily, 1951).

[5] *World Communications* (rev. ed., Paris, Unesco, 1951), p. 81.

[6] Figures cited as of 31 January 1951. *Broadcasting-Telecasting*, 4 February 1952, p. 91.

[7] United Nations Doc. E/CN.4/Sub.1/155, 2 October 1951, p. 9.

[8] Figures cited as of 31 December 1950. *Ibid.*, p. 10.

value of education by radio where there are no educational broadcasting services and only a few transmitters and receivers?

While problems of transportation have received a great deal of attention during the last few years and increasing efforts are being made for their expansion and improvement, problems of communications—mass communications in particular—have been almost entirely neglected in the plans and programs for economic development and technical assistance. It is true that some countries have requested audio-visual specialists and that the projects for fundamental education include some provisions for the use of mass media. But the whole question of mass communications in underdeveloped areas—and more particularly the problem of public information through the mass media—is still largely unexplored. Only one group of countries and territories—the British Commonwealth and British dependencies—has adopted systematic plans for the development of film and radio services and has integrated them in broader economic, social and educational projects.

One reason for the neglect of this vital aspect of economic development is the fact that the governments of many of the underdeveloped countries are unable to formulate requests for assistance in this field because they do not have communication specialists and the necessary data. Thus far only Pakistan, whose government has had the benefit of several outstanding radio experts formerly connected with the All India Radio, has presented extensive plans and requests for the development of its telecommunication and educational broadcasting services.

Although it would be quite unjust to say that nothing has been attempted and that nothing has been done for the improvement of present communication conditions in under-

developed areas, the results obtained up to now are small, very small, measured against the magnitude of the task and the importance and urgency of substantial improvements in communications.

This rate of progress is far too slow if any significant results are to be achieved. It is not enough if, in five years, a few underdeveloped countries have prepared projects and requests for the expansion of their press, film and radio services, and if, in ten years, they are provided with some limited means for the improvement of existing facilities and the training of personnel. It is important now to examine the problem of technical assistance in communications, and the role of communications in economic development, in order to initiate more constructive, energetic and intensive action.

Communication Projects in Current Programs

PLANNING AND ACTION concerning the improvement of communications and their use as a tool in economic and social development should be based on preliminary surveys of the conditions in underdeveloped countries, on expert analysis of the technical assistance programs presently carried out and on the results so far obtained. Then only will it be possible to understand the many problems involved — technological, sociological and cultural — to learn from past experience and to outline practical solutions for the future.

There are two types of technical assistance programs considered here: (1) those undertaken or projected by national governments and organizations to help overseas territories and foreign countries, and (2) those of international organizations working in cooperation with the governments and local authorities of member states.

Development Plans in British Colonies

During World War II the British government established extensive radio services, primarily for military purposes. With enterprise and vision the British authorities decided not only to continue their operation, but also to expand and improve existing facilities for use as instruments of mass education. Increasing efforts have also been made for the training of natives to enable them to handle modern technical equipment and to produce films and radio programs.

Special funds were made available under the Colonial Development and Welfare Acts for this purpose. Frequently, communication projects were "synchronized" with projects for the expansion of transport facilities, with opening up interior regions and with mass education campaigns. Recognizing that any activity in underdeveloped areas must, by definition, be a long-range undertaking, many grants cover, in addition to the capital investment, recurrent expenses for a three-year period; others are clearly labeled as appropriations covering the expenses for the "first stage" of a project to be carried out by both British and colonial authorities.

During the fiscal years 1949-50 and 1950-51, twelve British territories in Africa, Asia and Latin America received funds for film and broadcasting activities, in addition to a great number of grants for telecommunication and especially aeronautical radio services. Broadcast operations were developed in Mauritius, through the addition of mobile recording equipment, in Hong Kong by building new studios and in British Honduras through the installation of a receiving station and studio equipment and the training of a local technician. With the help of well-known BBC producers appointed for three years to assist the local broadcasters, special program services are being developed in the West Indies for Jamaica, the Bahamas, Trinidad, Barbados and British Guiana. Malaya and Singapore received £41,725 and £8,275 respectively for the purchase of community receiving sets, in order to promote group listening by native populations.

Most important, however, are those projects which provide for the creation of new broadcasting services in areas which were not covered at all or at least not yet sufficiently. In Gambia, West Africa, £190,000 were granted for the first stage in the establishment of two shortwave stations (total cost

£269,200) and £42,360 for the organization and the recurrent costs of the radio service in Central Africa, where according to an official statement, "broadcasting has been proved to be a valuable medium for mass education." In Cyprus—strategic outpost of British forces in the Near East—£147,000 were granted towards the expenses of the establishment of a local broadcasting service and in Tanganyika £10,000 for the first stage in the development of a broadcasting service. The results achieved despite limited funds are considerable, thanks to the interest the Africans themselves take in these projects, and to the active participation of colonial broadcasters trained locally or in London.

The BBC Colonial Service frequently aids in the development of programs. Last year, for example, it participated in an interesting experiment of adult education in West Africa. Listening and discussion groups were organized for a series of special broadcasts, arranged in collaboration with the Directors of Extra-Mural Studies of the University Colleges at Ibadan in Nigeria and Achimota in the Gold Coast.[9] To the surprise of European observers, Africans "were at home at the microphone and at the receiver," and broadcasting proved to be "far and away the best medium for the rapid and widespread enlightenment of the illiterate African masses."[10] Where formal educational methods—too slow to satisfy the suddenly awakened "hunger for knowledge"—have failed, radio broadcasts combined with film demonstrations, brought about rapid changes. Touching letters, expressing the gratitude of the native peoples, attest that the populations in Central and West Africa value the contact with the outside world as an opportunity for better living.

[9] See *BBC Yearbook, 1952* (London, British Broadcasting Corporation), p. 115.

[10] Cyril Ray, "Broadcasting in Central Africa," *The Times* (London), Educational Supplement, 10 March 1950.

Central Africa has become a kind of laboratory for the use of mass media. The Ten-Year Development Plan for Northern Rhodesia which has an African population of about 1,600,000 includes provision for substantial grants to the Central African Broadcast Scheme, the Central African Film Unit and the Publications Bureau.[11]

These grants have enabled the Information Department to start a campaign for the improvement of social and economic conditions in Central Africa. All channels of communication are being used: press communiques, an African newspaper, books of general interest to Africans (18 titles and over 80,000 volumes were produced by the Publications Bureau in 1950), and newsreels and documentaries shown throughout the country by cinema vans touring different provinces. But the principal instrument of the campaign is the radio station at Lusaka, broadcasting in English and in six vernaculars to Africans in Northern and Southern Rhodesia and in Nyasaland.

The main obstacle to the program was the lack of receiving facilities. There were not more than 20 to 30 African owners of private sets in Northern Rhodesia, the same number in Nyasaland, and merely 700 in Southern Rhodesia where wages are higher. Only a low-cost receiver could solve this problem which was further complicated by the fact that a set was needed which would resist both the tropical climate and unskilled handling, and which could be used many miles away from electric current, servicing engineers and battery chargers.

It took three years of intensive research and effort before a radio manufacturer could be persuaded to engage in pro-

[11] By the end of 1950, the Central African Broadcast Scheme had received £56,402 from the Colonial Development and Welfare Fund and £47,198 from the Northern Rhodesian Development Account; the Film Unit £21,067 and the Publications Bureau £18,712. See *Annual Report on Northern Rhodesia, 1950* (London, Colonial Office, 1951).

duction of a portable set which met such unusual requirements and could be offered at the price of £5 plus £1.5 for supplementary batteries. Mass production, as well as the cooperation of the manufacturer and the distributor satisfied with a small margin of profit, a motor transport firm which offered to carry the sets free of charge on all its routes, and the government which agreed to import them free of duty and to exempt them from all license fees, made the success of the set possible.

The "Saucepan Special"[12]—so-called because of its cabinet which is, in effect, a large aluminum saucepan without handle—is a simple shortwave four-tube battery receiver. It is entirely insect-proof and tropically finished. It can easily be transported since the receiver and the battery each weigh just over seven pounds. One special problem which presented serious difficulties was the question of color. In Africa each color has its own definite meaning as a symbol of good or evil and this varies among the various cultures. After extensive investigation the one color which appeared to be generally acceptable was blue, so all "Saucepan Specials" have been painted blue.

The introduction of this low-cost receiver has changed Northern Rhodesia from an isolated territory to an area where radio links the village in the interior to the capital, to Britain and to other countries of the world. The first 2,000 receivers shipped to Northern Rhodesia by the end of September 1949 were sold within six months, primarily to Africans. The government especially encouraged African civil servants to buy the set and granted them loans to facilitate payment, an essential aspect of the plan since the price of the receiver repre-

[12] See H. Franklin, *The Saucepan Special: the Poor Man's Radio for Rural Populations* (Lusaka, Northern Rhodesia, Government Printer, 1950).

sents approximately one month's salary. Several thousand sets have been imported since 1949, and many more are ordered every year. The average number of listeners for each set is about ten. The introduction of 3,000 to 4,000 sets means that radio broadcasts are reaching 30,000 to 40,000 people who never before had any means of listening to educational or cultural programs and who, because of almost general illiteracy, could not be reached by printed publications.

The "Saucepan Special" has not only opened the homes of Africans to radio, but it has also aroused considerable interest in broadcasting generally. Whereas community sets previously had only a few listeners, the spread of the private receiver induced those who could not buy a set to go to the places where community receivers were available. Most important, however, is the educational value of the receiver, called by the African people, "The Great Teacher." There is a new interest in news, in agriculture and health information and in the English language; every letter and every statement of Africans indicate that radio has brought to their homes instruction as well as enjoyment.

One of the most ambitious and most carefully planned projects in mass communications is the Colonial Film Unit. After an initial period of trial and error, it became evident that to make a film for Africa it was essential to shoot the film in Africa and to secure the cooperation of the African people in its conception and production.[18] Experts are sent out from the center in London to teach Africans the techniques of film and film strip production. Scholarships are awarded to Africans so that they may study in England and may have the

[18] "The Film and Colonial Peoples," address by John Grierson, Controller of Films, Central Office of Information, United Kingdom, on 16 January 1948, quoted in *The Colonial Review*, June 1948, p. 171.

benefit of the technical experience there. In order to carry out this program, special grants amounting to £2,860 and £2,510 respectively were recently made to local film units in Kenya and Tanganyika for the production of films in these territories.

The establishment of new services, the coverage of vast areas with posters and printed publications, films and radio broadcasts requires of course specialized personnel. Consequently, the British Broadcasting Corporation is training program officers and technicians from the colonies. Last year, for example, its Staff Training Department conducted a course on radio technique for twelve broadcasters from Nigeria, the Gold Coast and Jamaica specially designed for them and adapted to conditions in underdeveloped areas. The study plans took into account the lack of professional actors in the colonies, and the need to organize broadcasts with illiterates and to present musical programs with orchestras composed mainly of drums. In addition to members of the regular training staff, the head of the BBC Colonial Service and an area specialist from the University of London, with more than twenty years of experience in the Colonial Education Service, took part in this challenging experiment.

One aspect of the British development plans needs to be stressed, the emphasis on research. Year after year, dozens of studies, preliminary surveys and pilot projects are carried out with the help of technical and economic experts, language specialists and social scientists, visiting the territories for extended periods of time. Special attention has been devoted not only to scientific and economic problems, but also to social, educational and psychological ones, and considerable funds have been appropriated for this purpose. For example, a five-year grant of £126,048 has been made to support the East African Institute of Social Research; other

grants have been given to the West-Indies Institute for Social and Economic Research, the Institute of Educational Research in the Pacific Islands and many other research institutes, councils and organizations. In most cases, British authorities followed a policy of decentralization, carrying out research in the area directly concerned and working in close cooperation with the people. Efforts have been made to apply the experience gained in one territory in others, frequently with the help of the same experts.

The Colombo Plan

Another important step toward strengthening communications in underdeveloped areas is the Colombo Plan for Cooperative Economic Development in South and South-East Asia.[14] It is significant that transport and communications will receive a greater share than any other field: 34 per cent, or £627,000,000, of the total of £1,868,000,000 to be spent during the period 1951-57. While the bulk of these expenditures will be devoted to the building of roads and railways, new ports and the modernization of the old ones, large funds have also been earmarked for telecommunications, postal services and broadcasting activities, for hiring experts from overseas and for the training of specialists both at home and abroad.

India intends to spend 540,000,000 Rupees for the development of posts and telegraphs, 200,000,000 Rupees for aeronautical radio services, and 50,000,000 Rupees for broadcasting. An important new project is the establishment of a factory for radio and radar equipment, valued at 81,200,000 Rupees.

[14] See John R. E. Carr-Gregg, "The Colombo Plan: A Commonwealth Program for Southeast Asia," *International Conciliation*, No. 467 (January 1951).

Pakistan has reserved 90,000,000 Rupees for the development of telecommunications, providing for the extension of telegraph and radio services, the expansion of existing telephone exchanges and the installation of new ones, and the introduction of telephoto services. Malaya has set aside M $29,600,000 for communications.[15]

The Colombo Plan lays great emphasis on training and research. In addition to requesting 11 telecommunication experts for five years from abroad, India intends to send 18 of its telecommunication specialists overseas for one year training. Forty trainees from Pakistan will study abroad the maintenance of automatic telephone exchanges, the operation of radio telegraph and telephone transmitting and receiving equipment and telegraph traffic handling. In Malaya, provisions have also been made for the permanent employment of 24 telecommunication experts from abroad.

In the Near and Middle East the development of communications has been actively promoted by private British industry in collaboration with British authorities. In Turkey, for example, British contractors and manufacturers have installed and equipped a trunk telegraph and telephone system, radio telegraph and telephone installations and the high-power shortwave broadcast transmitter in Ankara. They completed the installation of an automatic telephone service in Damascus and other main centers of Syria, comprising between 15,000 and 20,000 lines, and greatly extended the Teheran telephone system. A British company, Cable and

[15] The exchange rates used in the report on the Colombo Plan prepared at a meeting of Commonwealth governments in London, September 1950, were United States $1.00 = 4.77 Rupees India, 3.32 Rupees Pakistan and 3.06 Malayan dollars. See *The Colombo Plan for Co-operative Economic Development in South and South-East Asia,* London: September-October 1950 (Cmd. 8080, His Majesty's Stationery Office).

Wireless, Ltd., also operates a number of telephone and radio telephone services it has established.[16]

The Point 4 Program

Within a few decades, the United States has succeeded in perfecting traditional communication systems, in covering an immense area with a network of channels and in developing new techniques of word and image transmission. No other country relies so heavily on communications, and nowhere have communications played so important a part in economic development and public information.

It is all the more surprising that the various technical assistance programs sponsored by the United States apparently do not include a single large-scale communication project, but are devoted almost exclusively to the development of agriculture, industry, public health and education. According to information given by the Acting Director of the Technical Cooperation Administration at a recent press conference at the United Nations Headquarters, activities in the field of communications have, up to now, been limited to the use of the so-called "How To Do It" pictures—short films for professional instruction—and to the provision of a few audio-visual experts, one of whom is attached, for example, to a rural-urban development scheme in India. There have also been some scholarships for communication specialists, but there is, as far as could be ascertained, no comprehensive training program.

One explanation given for the almost complete neglect of communication needs in underdeveloped areas is that the United States does not want to sponsor any project which

[16] *Britain and Middle East Development* (New York, British Information Services, November 1951), pp. 34-35.

could be interpreted as "propaganda." However, it is somewhat difficult to understand why a country engaged in worldwide political information activities, using all media of mass communications to influence public opinion, should remain indifferent to the need of Latin American, African and Asian countries to expand and improve communication and information services and facilities essential for fundamental education and for the transmission of technical, scientific and other vital information. Whatever the reasons may be, it seems regrettable that the United States, pioneering and leading in communications and communication research, does not seize this unique opportunity to undertake intensive studies and pilot projects in this field and to initiate and promote the development of communications in underdeveloped areas.

It is to be hoped that the Technical Cooperation Administration, the Mutual Security Administration and the Institute of Inter-American Affairs, which are all providing technical assistance of some kind, will become active in one of the fields in which United States leadership has been uncontested and will help underdeveloped countries to integrate communication projects in their future plans and requests.

The United Nations Program

The Technical Assistance Administration of the United Nations is promoting communications by the provision of experts and fellowships, but not yet through conferences, seminars or any large-scale projects.

As of January 1952 only six telecommunication experts were sent by the United Nations to only three countries—Afghanistan, Iran and El Salvador. However, there are a number of requests pending. Iran is particularly concerned with the improvement and extension of telephone and tele-

printer services; Bolivia has asked for a radio repair expert; and Ethiopia has requested a superintendent and four instructors to direct its telecommunication service and to train indigenous personnel. The most detailed project has been submitted by Pakistan which intends to establish a telecommunication training center. The United Nations has been asked to provide a whole group of experts, including a director for the proposed center and six telegraph, telephone and radio engineers.

Such missions can be of considerable importance, as proved by the example of Afghanistan. Last summer a Dutch telecommunication expert was sent to the country to help the government in the improvement of its domestic telegraph and telephone services and in the establishment of an international radiotelephone system linking Afghan telephones to those in other countries. He immediately realized the serious obstacles due to the mountainous topography. Knowing how similar difficulties have been overcome in Switzerland, in France and in the United States, he proposed that advantage be taken of recent technological developments and that a micro-wave radiotelephone system be established with relay telephone circuits from mountain top to mountain top. To implement this recommendation a French expert who had considerable experience with very high frequency (VHF) radio communications was appointed, and is now surveying possible routes for the projected VHF radiotelephone network which will connect Kabul, the capital, with other Afghan cities.[17]

Simultaneously, about 15 to 20 specialists were sent from Afghanistan, Brazil, Ecuador, India and Pakistan to countries with highly developed telecommunication systems, in particular to the Netherlands, Sweden, the United Kingdom and the

[17] *TAA Bulletin* (New York, United Nations Technical Assistance Administration, December 1951), pp. 1-3.

United States. While most of the "students" were engineers, the group also included the General Manager and the Director of the Telegraph Department of India.

As valuable as such actions and studies are, as important as the advice of experts and the newly-acquired knowledge of trainees may be, technical assistance should be provided on a larger scale, and to a greater number of countries. It is to be hoped, in particular, that Pakistan's training project can be carried out, and that other countries will soon present more comprehensive projects covering not only telecommunication but also mass communication activities.

Unesco

Fundamental education has always been one of the primary objectives of Unesco. As now defined, fundamental education means much more than a fight against illiteracy. It means

that kind of minimum and general education which aims to help children and adults who do not have the advantages of formal education, to understand the problems of their immediate environment and their rights and duties as citizens and individuals, and to participate more effectively in the economic and social progress of their community.

It is fundamental in the sense that it gives the minimum knowledge and skills which are an essential condition for attaining an adequate standard of living. It is a prerequisite to the full effectiveness of work in health, agriculture and similar skilled services. It is general in the sense that this knowledge and these skills are not imparted for their own sake only. It uses active methods, it focusses interests on practical problems in the environment, and in this way it seeks to develop both individual and social life.

It is concerned with children for whom there is no adequate system of primary schooling and with adults deprived of educa-

tional opportunity; it utilizes all suitable media for their development through individual effort and through community life.[18]

Since mass media—press, film and radio—have proved to be most valuable instruments in mass education, Unesco has shown considerable interest in communication problems. Many of its fundamental education projects provide for the use of audio-visual aids, with the help of specialists in this field. Assistance is given in developing facilities and personnel for the production and use of films, film-strips and other audio-visual aids as means of conveying the information for improved daily living and community action.

Consequently, audio-visual experts have been sent to eight countries—Bolivia, Burma, Haiti, Indonesia, Panama, Syria, Thailand and Turkey—and are also active at the Regional Fundamental Education Training and Production Centre in Patzcuaro, Mexico. A team of four radio experts, i. e., one specialist in educational broadcasting, one field engineer and two studio engineers, will work in Pakistan, according to an agreement signed in November 1950. Their special task is to advise the government in the establishment of a broadcasting program for adult education in rural areas and to assist educational authorities and radio personnel in general program planning, in the solution of technical problems and in the construction of studios, as well as in the training of program staff. Their task is a very difficult one, since radio has to link the two main parts of Pakistan which are separated by more than 1,000 miles; and many villages are not connected by road or rail with the cultural and political centers of the country. To assist further in the development of the

[18] Excerpt from definition endorsed by the Inter-Secretariat Working Party of the United Nations and Specialized Agencies, Paris, November 1950. Unesco Doc. 6C/PRG/3, 30 March 1951, p. 3.

service, six fellowships and scholarships for broadcast training of Pakistani personnel abroad will be awarded.

Turkey is presently engaged in a vast expansion program of its broadcasting service and is even considering the introduction of television. A two-man radio mission, composed of a French radio producer and the Chief Sound Engineer of the French Broadcasting System, visited Turkey. Working in close cooperation with the national broadcasting organization, they conducted courses in sound engineering and radio production techniques which apparently have been very successful.

Burma is chiefly interested in literacy films and educational broadcasting in connection with its fundamental education program and Unesco has agreed to provide specialists capable of assisting in their planning and production. Iran, too, hopes to develop its educational broadcasting activities and has requested a specialist to study the present set-up and to prepare a program for the intensive use of radio for education both in the schools and outside.

The first Unesco Regional Conference of National Commissions in the Western Hemisphere (Havana, December 1950) proposed that funds be made available for the technical needs of public information agencies in Latin America. This proposal was later endorsed by the General Conference of Unesco, but, of the total of $4,627,046 budgeted for technical assistance in 1952, only $103,600 were reserved for this purpose.

One project deserves particular mention—the "Special Project for the Establishment of a World Network of Regional Fundamental Education Centres." The model is the abovementioned center at Patzcuaro, Mexico, established in April 1951 under the joint sponsorship of Unesco, the Organization

of American States and the government of Mexico. The plan proposes that Unesco should expand this center and establish, within twelve years, five more such centers and a Central Organization for Co-ordination and Advanced Training in Paris, within Unesco's Division of Fundamental Education. Each center will be set up as an autonomous service of the Education Department of Unesco, with the best available international staff, recruited in consultation with the governments of the region. The centers will:

(1) provide training for teachers and specialized field workers in the techniques of fundamental education, who will later return to their countries to set up national training centers or pilot projects and thus pass on the knowledge they have acquired by a process of "chain reaction";

(2) produce model educational materials suitable for adaptation to the needs of the different communities in the region;

(3) send into the field experts and field teams, at the request of national authorities, carry out research or conduct experiments in national projects, and assist the national authorities in solving current problems in fundamental education;

(4) provide clearing house services of technical information and advice;

(5) make available space and secretariat facilities for regional conferences and meetings of experts.[19]

A minimum of audio-visual equipment will be provided for every center and will be at the disposal of the Film and Radio Sections. Two of the centers will have special units for the production of films and radio programs.

The cost of an ordinary center, over the total period of twelve years, is estimated at $2,760,325, the cost of the edu-

[19] For a detailed outline of the plan, see appendix B.

cational film and radio research centers at $3,378,000 and $3,326,650 respectively. The total expenditure for the project will be $20,000,000, based on the assumption that the expense of $843,635 in the first year (1952) will rise to $2,404,915 in the sixth year and diminish to $304,064 in the twelfth year.

This is certainly an important and far-reaching project, which deserves support and consideration. Thousands of leaders in the fight against illiteracy and ignorance will come out of these centers, new educational materials will be produced, and new methods of mass education will be devised and tried out. It is, however, somewhat regrettable that the program will not get into full swing before 1958 and will be completed only by 1964.

International Telecommunication Union

Directly concerned with the technical problems of telegraph, telephone and radio services, the International Telecommunication Union (ITU) has frequently given advice to other agencies, and has helped to secure communication experts. Its participation in the United Nations Expanded Programme of Technical Assistance was approved by the Economic and Social Council on 30 August 1951. It can thus be expected that the ITU will soon be making a significant contribution to this aspect of economic development.

Realizing the need to develop and to increase the international use of radio, especially broadcasting services, "in order to strengthen moral and intellectual ties among the people," the Inter-American Radio Conference in Washington 1949 unanimously adopted a resolution proposed by Unesco which recommends:

1. that the countries of the American Region use radio, especially broadcasting services, to the maximum possible extent in order to reduce illiteracy and promote basic education;
2. that material and technical aid should be given to those countries which have not yet developed efficient broadcasting services.[20]

[20] For full text see appendix A.

Problems and Solutions

FEW FIELDS ARE MORE complex than that of communications, for every communication problem is interrelated to problems in many other fields. Consequently, communication projects cannot, or at least should not, be based solely on technical and economic considerations, but need to take into account political and social as well as educational and psychological factors. On the other hand, any development and improvement in communications will inevitably influence political, economic, social and educational conditions, a fact which should be carefully considered in planning such projects.

It is important to emphasize that communication facilities, even the most modern and most elaborate, do not constitute any value in themselves. More significant is the use which is made of these facilities—the message, its spirit and purpose. Nor is it less important to consider those to whom the message is addressed, to know the audience, its needs, interests and levels of understanding. Too often, information is transmitted without any previous inquiry about the potential reader, viewer and listener; too often, it does not reflect anything more than the interest and attitude of the "sender" and thus fails to reach and to influence the "receiver."

Printing presses and film projectors, telegraph and telephone equipment, radio transmitters and receivers are certainly essential, and technical needs must be fulfilled before any message can be conveyed. But, and this cannot be stressed strongly and frequently enough, the principal con-

cern should be the positive use of the facilities—for the improvement of living conditions through economic development, for fundamental education, and for the promotion of cultural values and of interest in civic, national and international affairs, in particular for the promotion of better international relations. Quite rightly, a Unesco document points out that schemes for economic development cannot afford to ignore the use of such powerful media as the book, the press, the film and the radio.

> Current information should be conveyed through those media on the varied subjects which are of special interest to the farmer, the worker, and the technician, on general or particular agricultural problems, new crafts, new industries, and practical ways of handling everyday problems that will help them to improve their social and economic conditions.[21]

Communication facilities are also needed to enable people living in different regions of a country and in different areas of the world to enter into contact with each other.

Vocational training in public administration and technical skills can only be part of the answer, only the beginning in the formation of future leaders in technical assistance. Every supervisor of development projects, every expert and every member of a mission, as well as every trainee, should be concerned first and above all with problems of international cooperation; he should also be fully aware of the tremendous, even decisive importance of human relations in the accomplishment of his task.

The expert who is acquainted not only with modern techniques of irrigation or with the production of fertilizers, but also with the country to which he is going, with the people

[21] Unesco Doc. 6 C/PRG/21, 14 June 1951, p. 23.

whom he will meet, and with their daily worries, will certainly achieve more than the specialist who has had neither the time nor the interest to acquire such knowledge. His work will be further facilitated if he is familiar with the communication media of the country in which he is working and knows how to use them in order to explain his task, his ideas and problems to the people. A planned and constructive use of the mass media in coordination with all technical assistance projects can provide a firm basis of popular understanding and support.

Building the Audience

The main concern of those in charge of technical assistance either on the national or on the international level should be to build up an audience, to create a genuine interest in the concept of economic development, in the organizations which work for its implementation and in the individual projects which, if successful, will affect the life, the attitude, the thinking of every citizen.

Consequently, special attention should be devoted to the problem of reception. How can information—public information as well as educational material—be brought to the people? In particular, how can radio programs be made available in remote areas as well as in urban centers?

Experiments which have been successfully tried out may provide models which can be adapted to local conditions and audiences in other areas.. Two examples can be cited as evidence. The Delhi Rural Broadcasting Scheme, operated since 1933 by All India Radio, has provided listening facilities for about 111,400 inhabitants of 111 villages scattered over an area of 574 square miles. Thus, for an hour every evening, programs on current affairs, agriculture, animal husbandry,

health, civics, in addition to music, news, weather and market reports, are broadcast from the main transmitter in Delhi.[22]

In Western Samoa, receivers have also been installed in the villages and have been widely used for adult and community education, and for the transmission of school broadcasts and important events such as the proceedings of the Legislative Assembly. New Zealand provides a steady supply of films, film-strips and colored slides for educational purposes and health instruction. In addition, a weekly newspaper helps "to increase the awareness of the people of their position in the world scene, and their appreciation of current affairs."[23]

The success or failure of communication activities will depend not only upon the people who use them, but also upon the promotion of the programs. Experience has shown that one medium can be used to promote another. For example, broadcasting in Northern Rhodesia and the new low-cost receiver are widely publicized, not only in the radio programs but also through the African press, through vernacular posters and through film-strips. In Western Samoa the itinerary of the visual education instructors and the titles of the films to be shown are broadcast in advance to the villages concerned.

To implement technical assistance programs and to inform the people about these programs, however, we must know not only about the media of communications, but also about the "consumer" of newspapers, magazines and books, of newsreels and feature films, and especially of radio broadcasts.

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[22] See Claude Mercier, *Low-Cost Radio Reception* (Paris, Unesco, 1950), Appendix V, pp. 111-13.

[23] Report by the New Zealand Government to the General Assembly of the United Nations on the Administration of Western Samoa, from 1 April to 31 December 1950 (Wellington, Government Printer, 1951), pp. 57-58 and 63.

It is of primary importance to find out what a particular audience, and a particular group in the audience, wants and needs, how much can be understood of a message or, more precisely, how the message should be presented to be understood. Audience and public opinion research, which up to now has been completely neglected in technical assistance projects, is therefore a necessity.

The initial approach to the listener, the introduction of a new medium of communication—and in wide areas of the world film and radio are still new media—will condition the degree of acceptability. For example, radio, which the Bedouins at first considered an "invention of the devil," became a highly respected instrument as soon as it carried readings from the Koran (transmitted from an Arab station).[24]

Fundamental education should include "education for listening." People learn to read and write but never to listen or to look. The result is misunderstanding of the information transmitted in radio broadcasts, in newsreels and television programs; distorted reporting and disseminating of news and comments; lack of concentration during the transmission; and incapacity for evaluation and critical appraisal of programs. It may be difficult to persuade people in a highly civilized country to "study" radio listening although it would be as necessary for them as for others; but such education could certainly be given in every area opened up to radio and for the benefit of populations which had no, or almost no, previous contact with the media of communication. Such an experiment, if well-planned and executed, would certainly lead to a more intelligent consumption of information.[25]

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[24] Paper prepared by Leo Lowenthal, Chief, Division of Program Evaluation, Department of State, for Third National Conference of the U. S. National Commission for Unesco, January 1952.

[25] United Nations Doc. E/CN. 4/Sub.1/156, 2 October 1951, p. 44.

Significantly, a document prepared by the United Nations Secretariat suggests "that the definition of illiteracy should be broadened by regarding as illiterate not only a person unable to read and write, but also a person unable to listen, speak and interpret, i. e., one who lacked the essential means of communicating with his fellow men."[26]

Press, Film and Radio

When the decision has been reached concerning the subject matter of the communications program, the nature of the audience to which it is addressed and the preparation of the audience for intelligent listening, attention can then be directed to the media which afford the most suitable vehicles. In evaluating the effectiveness of various media the following considerations should be borne in mind. The high rate of illiteracy restricts the impact of printed publications. Furthermore, only exceptionally do the means exist for spreading information beyond a limited area, generally the capital city and one or two other urban centers. Daily newspapers seldom reach the "hinterland" or only with great delay, and the same is true for feature films, newsreels and documentaries, except for occasional visits of mobile cinema vans showing educational films. Newspapers are limited in number, in size and in circulation. Magazines sometimes compensate for this deficiency, but they, too, reach only a small fraction of the population. Books, in most cases, are reserved for the wealthy and educated. Years will pass before the campaigns for fundamental education will bring about a substantial increase in circulation and coverage.

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[26] United Nations Doc. A/AC. 35/L.11, 19 July 1950, quoted in *Non-self-governing Territories: Summaries and Analyses of Information Transmitted to the Secretary-General During 1950,* Vol. III (New York, United Nations, 1951), p. 62.

Although frequently appealing to different audiences, films are likewise only an entertainment for a few, or relatively few, and only in those countries and territories where authorities or private organizations have at their disposal special film units and mobile cinema vans can they serve as effective tools for education and instruction. Attendance figures clearly indicate that, with the exception of a few countries and the big cities, films do not yet reach the masses. The inhabitants of India, Indonesia, Iran and Turkey see films once a year, those in Bolivia and Egypt twice, as compared with a per capita figure of 38 in Israel, 29 in Great Britain, 25 in Australia and 22 in the United States.[27] Thus, in general, both press and films have to be discarded as mass media in the underdeveloped countries.

Radio alone, the most powerful and most important medium of mass communication, reaches larger audiences; it appeals to literates as well as illiterates—an effect which is quite important as long as more than 1,200,000,000, half of the world's population, can neither read nor write. Radio alone bridges the distances between urban centers and rural areas, between one country and another, linking the community to the nation and the nation to the world.

At present, radio does not yet cover all areas of the world, and seldom fulfills the needs of the people for information, instruction and entertainment. It is in fact far from reaching this goal, but it offers unique possibilities for rapid expansion. Through technical assistance, it would not be too difficult to extend the range of broadcasts in underdeveloped areas, to increase the number and power of transmitters and to multiply the number of receiving sets and thus of radio listeners. Such action would be facilitated by the fact that broadcasting services in most of the countries and territories concerned

[27] Figures for 1950. World Communications, *op. cit.*, pp. 206, 212, 214 and 202.

are controlled and operated by government agencies, i.e., by those who are the direct recipients of technical assistance funds. Even where the government does not operate the radio stations, it exercises licensing authority and therefore may coordinate action, provide guidance in the establishment of new transmitters and promote the improvement of reception conditions.

Almost all underdeveloped countries already have a broadcasting service, and thus a nucleus for future development. While many of them still operate only a few low-power stations, unable to cover the area and to provide adequate service, and while program activities are frequently limited to a few hours per day, some countries have demonstrated how rapidly and successfully these deficiencies can be remedied. Latin America as well as the Near and Middle East offer convincing evidence. Radio in Brazil, which until 1945 had been confined to a few cities and to four of the twenty states, is now spreading throughout the country, even to remote regions, thanks to the establishment of hundreds of local stations during the last three years.[28] A few years ago, Syria had very limited facilities; today it has one 20 kilowatt and two 50 kilowatt transmitters, and many of its broadcasts are heard beyond the frontiers. Several countries which, for many years, could offer their listeners little or no choice, are now broadcasting two alternative programs for most of the day and the night.

Various technical devices are being used to extend the range of the broadcasts, such as: secondary shortwave transmitters carrying the domestic programs simultaneously with the standard broadcasting stations, thus ensuring their reception in distant places; chains of small and inexpensive relay transmit-

[28] Arno Huth, *Radio and Television in Brazil* (New York, International Public Opinion Research, Inc., 1952). In preparation.

ters, acting as super-receivers and amplifiers; wire broadcasting systems, distributing the programs to the loudspeakers installed in homes and collective listening centers. Many of the Latin American and Middle Eastern stations already combine medium and shortwave transmitters. Twenty-four low-power medium wave transmitters, scattered throughout Iran, relay the evening programs of Radio-Teheran. And wire broadcasting supplements the radio service in a number of Dutch and British colonies.

The most serious problem is caused by the shortage of sets, despite the fact that in most underdeveloped countries the number of receivers has sharply increased during the last years, frequently by as much as 100 to 200 per cent. Practical measures such as lowering trade barriers, which hamper the import of receiving equipment, and reducing the annual license fees, which most listeners have to pay, would contribute to the solution of the problem. Local manufacture would also be helpful, particularly if part of the material were imported. Private assembling plants established by American manufacturers in Mexico and Brazil have shown with what relative ease mass production can be organized and expanded through advanced technical and administrative methods. Finally, as seen above, there are many conclusive experiments—in Central Africa, in India, in Western Samoa and other places—showing clearly how the reception of broadcasts and, in particular, of educational programs could be planned, organized and used for the benefit of indigenous populations both in rural communities and in outlying areas.

Radio is the one field where results can be obtained rapidly, where one country can help another, and where the cooperation among broadcasters can secure tangible results. We do not need to wait until a higher percentage of the population becomes literate, until social conditions have improved and

standards of living have been raised—we have the instrument, and, in developing and using it intelligently, we can promote and accelerate economic development.

New Approaches

Quite frequently it may be possible to use simple media of communication, in particular those which are part of the cultural environment and which can, even in underdeveloped areas, be found in many places. Should we not take advantage of the victrola and use records for spreading information and basic knowledge? Likewise, thousands of loudspeakers installed in parks, in public places and in factories could be used in the campaign against ignorance and illiteracy. The experience of the Educational Broadcasting Service in Brazil proves that public address systems can be a valuable supplement to radio and cinema, reaching large groups of listeners, many of whom are anxious to learn.[29]

Not only can use be made of media of communications which are easily available and already in existence, but a substantial amount of program material in the archives of broadcasting organizations all over the world can also be drawn upon.

If adequate arrangements could be arrived at [this writer recently stated in a report written for the United Nations], these forgotten scripts and programs could be made available to broadcasters in less-developed areas. Much of it may not be appropriate and might have to be discarded, either because it has been designed for national audiences exclusively or because the information contained is outdated, but much material could easily be adapted and be used again. With the help of an interna-

[29] See report by Dr. Fernando Tude de Souza in *Broadcasting to Schools* (Paris, Unesco, 1949), p. 51.

tional organisation and in consultation with broadcasters of the countries concerned, it would certainly be possible to select old and new programmes from all over the world and to offer each country in need of broadcast material several hundred hours of recorded programmes, of scripts and ideas. It is unnecessary to stress the potentialities of international information and understanding which such an action implies.

This is a challenge to international cooperation, and action should be taken to assist authorities and broadcasters in less-developed areas. International organisations, in particular, could help in the preparation of educational programmes, especially school and children's broadcasts, based on international documentation and scientific research but produced in the language of the countries concerned, and on the intellectual level of the local audience. Moreover, a large amount of scripts, covering different aspects of life and learning, could be put at the disposal of radio stations in less-developed countries, including special programmes about the aims and activities of the United Nations and, more particularly, about the Universal Declaration of Human Rights.[30]

The answer to most communication problems, however, should not be sought in using old media and in applying old techniques. Modern technology has given us new means and methods which frequently are not only more efficient, but also more economic. Technical assistance offers a unique opportunity to experiment with new communication techniques. This applies particularly to frequency modulation which provides a solution for many problems of radio communications in tropical areas and to facsimile broadcasting which can be used to distribute printed and graphic material of all kinds even where newspapers do not exist, or at least not the facilities to transport them. It applies above all to television which combines sound and image and which, despite

[30] United Nations Doc. E/CN.4/Sub.1/156, 2 October 1951, pp. 43-44.

initial obstacles, could be introduced in underdeveloped countries by means of large-screen receivers for collective reception and might well prove to be the greatest audio-visual aid to fundamental education ever developed. The economic problem could be solved if the equipment were standardized and the effective demand for sets sufficiently large to make mass production possible. It would be much easier to introduce modern technical systems in countries which do not yet have elaborate and firmly established services, since the new equipment does not render obsolete existing and costly facilities. An illustration of this is the fact that three Latin American countries have succeeded in building up a television audience within one year.

Training of Personnel

However, modern technical systems, no matter how efficient, will not achieve their objectives unless they are directed and infused with purpose by a corps of suitably trained personnel. A few years ago, referring to the British colonies, John Grierson declared that the first requirement is to

> find a body of men who will make this their lifework, who will specialize in this and really begin with knowing about the colonies . . . men who by living with the problem will see the issues arising out of it at all levels—sociological, cultural, technological—who will study the techniques concerned with health education, community training and management on the part of the natives . . . even if it takes twenty years.[31]

Just as it is vital for the communication expert to understand the environment within which he is to function, it is equally important that the technical assistance expert in

[31] "The Film and Colonial Peoples," *op. cit.*

whatever field be aware of the communication media which he may need to call upon. He cannot, of course, be expected to study the science of communications, but he can familiarize himself with the problems and potentialities of the various communication media. The opportunity to acquire such knowledge could easily be provided through the "briefing sessions," or "briefing school" which the United Nations intends to establish in fulfillment of a resolution of the Economic and Social Council calling attention to the need for adequate preparation of experts before assignments are undertaken. At present, the experts' briefing consists of information about the United Nations system, the Expanded Programme of Technical Assistance, their role as international officials, and the countries to which they are going.[32] To these topics could and should be added the subject of communications.

Research

Experience in different parts of the British Commonwealth has clearly proved that preliminary research and pilot projects are of vital importance. There is a need for greater exchange of information among the less-developed countries, and for an appraisal of all relevant data and results. Every individual project, and the Technical Assistance Program as a whole, would benefit from extensive research activities, linking the technical problems not only to the economic or, more precisely, financial aspects, but also to the sociological, cultural and psychological factors involved. Such studies would help governments to formulate their requests and to integrate projects in the various fields and in various countries; they may even make it possible to standardize technical equipment and

[32] Unesco Doc. 28 EX/11, 25 October 1951, p. 25.

thus to reduce both the cost and the time of manufacturing the needed equipment.

The money spent now and in the future—millions and millions of dollars every year—would produce much greater results if part of the appropriations was used for basic research in communications and all related fields, with the help of the most outstanding specialists, many of whom are, for different reasons, not available for technical assistance missions.

To facilitate such research it would seem desirable to create a research unit which would report directly to the Technical Assistance Board of the United Nations, and would serve all agencies and all governments interested in economic development. This unit, working in close cooperation with the leading specialists of all countries and with the governments for which a project is to be prepared, should help in the planning and coordination of the programs and the evaluation of their results. The unit should be entitled to provide advice to governments concerning modification or expansion of a project, and concerning cooperation and exchange of information between several countries where similar technical assistance projects are carried out.

Such preliminary research combined with pilot projects would greatly facilitate both the planning and the actual work, and would extend the benefit of technical assistance projects to different fields, wider areas and a larger number of peoples. Action could be started simultaneously in ten or twenty countries instead of one or two, if research and studies had been made on an international scale, and if the governments were informed of the results of these studies and were provided with the essential data.

Expert analysis of the role of communications in the life of the various countries and nations and their potentialities

for economic development is needed first of all. This would enable the organizations concerned to guide and to coordinate future planning, and to prepare concerted action for the benefit of a great number of countries. Plans could be drawn up in consultation with the governments of many underdeveloped countries, taking into account not only the specific needs but also the experiences had and the lessons learned in the different parts of the world, as well as recent technological advances which may offer new solutions to the old problems. Basic research, expert planning and coordination of the different projects could overcome many of the obstacles which, at present, seem to be insurmountable.

Conclusion

TECHNICAL ASSISTANCE is a revolutionary idea and a gigantic undertaking. It is an attempt to achieve in a few years what, in almost all of the highly developed countries, required centuries of patient work and gradual progress. Traditional forms of education cannot achieve the changes which are prerequisite to economic development—only new means and new methods have any chance of success. Technical assistance should, above all, be *human* assistance, and technological, industrial and social changes should be developed in collaboration with those directly affected. This implies conditioning and adjustment of public opinion, which, in turn, requires information and explanation of the projects and their goals.

Special programs should be designed to prepare public opinion for technical assistance projects and to promote the support of the people for these plans. The broadcasting of regular progress reports to the nation informing it of the results so far achieved would help to arouse wide interest in such projects, and to create goodwill for the United Nations and other organizations which have been instrumental in their implementation.

To make these programs effective and to integrate communications into over-all programs for economic development will require substantial research and the pooling of the findings. Without waiting for specific requests from individual governments, national and international agencies should initiate basic research and pilot projects for the benefit of not only a few countries and territories but of all underdeveloped

countries. The funds required are minimal as compared to the cost of missions, fellowships, seminars and conferences; the results of research, if undertaken by the most outstanding experts, would more than justify the expenditure.

Very few of the underdeveloped countries will be able to make full and constructive use of the mass media for many years to come unless they collaborate with other countries facing the same problems and are helped by those who are economically and technically more developed. Through common planning, pooling of resources and mutual assistance even difficult communication problems could probably be solved in the near future. One of the most important by-products of technical assistance and economic development should be the recognition of the interdependence of all peoples, and of the need for international cooperation.

APPENDIX A.

Recommendation Concerning the Use of Radio in the Field of Education

(proposed by Unesco and included in the Inter-American Radio Agreement and the Final Acts of the I.T.U.-Region 2 Radio Conference, Washington, D. C., 1949.)

The Fourth Inter-American Radio Conference, Washington (1949),*

considering:

A. that it is necessary to develop and increase the international use of radio, especially broadcasting services, in order to strengthen moral and intellectual ties among peoples;

B. that it is necessary to foster international information and provide facilities leading to the attainment of a better culture;

C. that many countries need technical assistance, as evidenced in the Reports of the Commission on Technical Needs of Unesco, making it necessary to remedy the lack of radio equipment and personnel, as soon as possible;

D. that radio is one of the means of communications which is most effective in reducing illiterary and promoting basic education;

E. that in the American Region some countries possess highly developed broadcasting services, while others lack adequate facilities;

F. that in the American Region great opportunities exist for mutual help among radio organizations;

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* or: "The I.T.U. Region 2 Radio Conference. (Washington 1949).."

recommends:**

1. that the countries of the American Region use radio, especially broadcasting services, to the maximum possible extent in order to reduce illiteracy and promote basic education;

2. that material and technical aid should be given to those countries which have not yet developed efficient broadcasting services;

3. that the training of technical radio personnel should be encouraged for the mutual benefit of all the countries of the American Region;

4. that the countries of the American Region, which are Members of the International Telecommunication Union, the United Nations, and Unesco, take steps to implement this recommendation and keep these organizations informed.

APPENDIX B.

Project for the Establishment of a World Network of Regional Fundamental Education Centres[1]

I. PREAMBLE

If the methods and techniques of fundamental education developed by Unesco are to be spread throughout the world, if they are to be improved and adapted to the special needs of different communities—two major deficiencies must be overcome: first the shortage of experts and specialists in comparison with the immensity and variety of the needs, and secondly the lack of suitable educational materials.

** or: "recommends to the Administrations of Region 2 . . "

[1] Unesco Doc. 6C/PRG/3, 30 March 1951, pp. 6-9.

In order to improve the techniques of fundamental education, to make them more flexible, and to use them intensively with maximum effect, the following conditions are essential:

1. A broad programme of practical research to test methods discovered by current experiments, to determine the ways in which they can be generalized or adapted, and to decide upon the conditions in which they can be more intensively used.
2. Increased efforts to find and select men and women with the right technical qualifications, to train them as specialists for practical work and to enable them to pass on to others the benefit of the training which they themselves have received.
3. The preparation of model educational materials, so that Member States may, in their turn, undertake the necessary adaptation and mass production of those most suited to their needs. They would then be used by specialists whose training had kept pace with the production of the materials.

These three tasks, closely related as they are, require systematic, concentrated and continuing activity exceeding the limits of an annual programme. The present document therefore proposes a twelve-year plan.

It also recommends for practical reasons a methodical decentralization of the work to be undertaken. Although the aim and broad outlines of fundamental education may be expressed in general terms its application must vary considerably with the conditions of life, (geographical, material, social and cultural) of the communities which are to benefit by it. For this reason five theatres of action have been contemplated, corresponding to five great regions of the world where needs are particularly urgent and far-reaching: Equatorial Africa, Latin America, the Far East, India and the Middle East.

It must be pointed out in this connexion that the activities here proposed for Unesco do not run counter to its programme of technical assistance for economic development, or overlap with it; they will in fact assist it, by providing countries, where a programme of technical assistance is being carried out, with reliable information, with the services of experts and with prototypes of educational material from the fundamental education centre in their region.

Lastly, as will be seen, decentralization will be accompanied by the establishment of a central organization for co-ordination, supervision and higher studies, which will permit the activities in question to be linked with the execution of the ordinary annual programmes.

II. STRUCTURE OF THE PLAN

During the execution of the plan over the twelve-year period, there will be established:

six regional fundamental education centres[2]

a central organism for co-ordination, supervision and higher studies, in Paris.

A. Functions of Centres

The function of each centre comprises the following activities, which will be carried out in collaboration with the Member States of the region concerned:

1. Studies
2. Production of material
3. Training of personnel
4. Aid to fundamental education activities in the region

[2] N.B. The Regional Centre for Latin America at present functioning in Mexico will be one of the six regional centres of the plan [and] . . . will be incorporated in the scheme . . . .

1. *Studies.* Efforts will be made to determine:

(1) the precise needs, in the field of fundamental education, of the States of the region to be assisted;

(2) the types of activities capable of satisfying these needs, and the most suitable methods for that purpose;

(3) the men capable of becoming, after training by the Centre, fully competent regional specialists, and those capable of becoming fully competent international experts in fundamental education;

(4) the experimental areas and the materials required for the testing and application of these methods.

2. *Production.* Various kinds of educational materials will be produced, such as textbooks, reading books and materials, teachers' guides, pamphlets, posters, films, filmstrips, sound recordings, etc., corresponding to the activities and methods adopted. The materials produced will consist of prototypes, which can be used in the geographical area for which they have been prepared. Their mass production will be ensured by the State or States concerned. Moreover, these prototypes will serve as models for the production of similar materials, after the necessary adaptation, outside the region (since there will be an exchange of materials between the different Centres).

3. *Training.* The Centre will train:

Specialists recruited in the region, who will return to work in the State to which they belong (or, if necessary, in another State of the region), to apply the training they have received, either by exercising direct influence on the masses of the people, or by training other specialists in suitable national institutions;

on occasion, specialists from other regions, sent by the Secretariat of Unesco or by the governments of Member States . . . .

From among these two categories of specialists a certain number can be selected to become, after an additional course at the central co-ordinating and advanced training organization in Paris, international experts of Unesco.

4. *Aid to fundamental education activities in the region.* These essential functions of the Centre will enable it to assist fundamental education activities in the region concerned, whether they result from:

the ordinary programme of Unesco,

the Technical Assistance programme,

regional or national projects which are recognized as important.

This assistance may take the form of:

exchange of information and of documents,

despatch into the field of one or more experts for a determined period,

constitution and despatch of mobile research or production teams,

conferences and seminars at the Centre,

assistance to national branch projects, especially those developed through the efforts of the teams trained at the Centre.

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In short, the Centre is envisaged as a "dynamo" for all fundamental education activities in the region served by it and as the liaison agent and the source of technical advice for Unesco in relation to all fundamental education projects undertaken by the Organization in the region.